

**Plate Tectonics** ▪ *Guided Reading and Study*

# The Theory of Plate Tectonics

*This section explains how the lithosphere is broken into separate sections that move.*

## Use Target Reading Skills

Before reading the section, write simple definitions for the words *diverge*, *converge*, and *transform*. You may use a dictionary. After reading the passages that contain the key terms *divergent boundary*, *convergent boundary*, and *transform boundary*, explain how your definitions relate to these terms.

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Write a definition of each Key Term in your own words below:

plate: \_\_\_\_\_

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scientific theory: \_\_\_\_\_

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plate tectonics: \_\_\_\_\_

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fault: \_\_\_\_\_

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divergent boundary: \_\_\_\_\_

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rift valley: \_\_\_\_\_

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convergent boundary: \_\_\_\_\_

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transform boundary: \_\_\_\_\_

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## **The Theory of Plate Tectonics** *(continued)*

### **Introduction**

1. The lithosphere is broken into separate sections called \_\_\_\_\_.
2. Is the following sentence true or false? Plates can carry continents or parts of the ocean floor but not both. \_\_\_\_\_

### **How Plates Move**

3. What is a scientific theory? \_\_\_\_\_  
\_\_\_\_\_
4. State the theory of plate tectonics. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
5. Is the following sentence true or false? The theory of plate tectonics explains the formation, movement, and subduction of Earth's plates.  
\_\_\_\_\_

### **Plate Boundaries**

Match the term with its definition.

#### **Layer**

- \_\_\_\_\_ 6. plate boundary
- \_\_\_\_\_ 7. fault
- \_\_\_\_\_ 8. rift valley

#### **Description**

- a. Deep valley that forms where two plates pull apart
  - b. Line where the edges of Earth's plates meet
  - c. Break in Earth's crust where rocks have slipped past each other
9. Complete the compare/contrast table to show how plates move at the different types of plate boundaries.

<b>Plate Movement</b>	
<b>Type of Plate Boundary</b>	<b>How Plates Move</b>
Divergent boundary	<b>a.</b>
Convergent boundary	<b>b.</b>
Transform boundary	<b>c.</b>

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- d. How are the movement of plates at divergent boundaries and at transform boundaries similar?

\_\_\_\_\_

10. Is the following sentence true or false? Crust is neither created nor destroyed along a transform boundary. \_\_\_\_\_
11. Most divergent boundaries occur along \_\_\_\_\_.
12. When two plates converge, the result is called a(n) \_\_\_\_\_.
13. When two plates collide, what determines which plate comes out on top? \_\_\_\_\_
- \_\_\_\_\_
14. Circle the letter of each sentence that is true about convergent boundaries.
- a. Where two plates carrying oceanic crust meet, subduction does not take place.
  - b. An oceanic plate sinks beneath a continental plate when the two plates collide.
  - c. Where two plates meet, the one that is more dense sinks under the other.
  - d. Mountain ranges form where two plates carrying continental crust collide.
15. Was Pangaea the only supercontinent to have existed? Explain your answer.
- \_\_\_\_\_
- \_\_\_\_\_
16. Is the following sentence true or false? The pieces of the supercontinent Pangaea began to drift apart about 225 million years ago.
- \_\_\_\_\_